

- 4 -

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method of mediating cell traffic between an asynchronous transmission mode (ATM) network and an adjacent network, each cell in said cell traffic having a set of transmission parameters related to said ATM network and a respective ATM connection for said cell, said method comprising:

- (i) identifying for said cell an egress queue family by utilizing a first set of parameters from said set of transmission parameters;
- (ii) associating with said cell one of a predefined number of egress class of service (COS) levels by mapping a second set of parameters from said set of transmission parameters into one of said egress COS levels;
- (iii) utilizing said egress COS level associated with said cell to select an egress queue member of said egress queue family identified in step (i), said selected egress queue member being associated with said egress COS level associated with said cell in step (ii); and
- (iv) providing said cell to said identified queue member for forwarding to said another network ;

wherein said first set of parameters comprises a real-time connection indication and a resource reserved indication;

wherein said second set of parameters comprises at least an ATM quality of service parameter and a service category parameter;

wherein for said second set of parameters, said ATM quality of service parameter comprises a cell loss ratio parameter and a cell delay variation parameter;

wherein said egress queue family in step (i) is one of a real-time (R-T) queue family, a resources reserved (RR) queue family, and a non-resources reserved (nRR) queue family; and,

wherein said RR queue family comprises eight RR queue members, each said RR queue member having a minimum bandwidth proportional to a weight assigned to each egress COS level associated with each said RR queue .

- 5 -

2-5. (Cancelled)

6. (Currently Amended) A method as claimed in claim 1 -5- , wherein said R-T queue family comprises a single R-T queue member having a predefined minimum bandwidth.

7. (Cancelled)

8. (Currently Amended) A method as claimed in claim 1 -5- , wherein said non-resources reserved queue family comprises eight nRR queue members, each said nRR queue member having a relative queue priority corresponding to an egress COS level associated with each said nRR queue.

9. (Currently Amended) A system for mediating cell traffic between an asynchronous transmission mode (ATM) network and an adjacent network, each cell in said cell traffic having a set of transmission parameters related to said ATM network and a respective ATM connection for said cell, said system comprising:

(a) an identifier for utilizing a first set of parameters from said set of transmission parameters to identify an egress queue family for said cell;

(b) a translator for translating a second set of parameters from said set of transmission parameters to an egress class of service (COS) level associated with said cell; and

(c) a selector for selecting an egress queue member of said egress queue family to forward said cell to said another network, said selected egress queue member being associated with said egress COS level associated with said cell ;

wherein said first set of parameters comprises a real-time connection indication and a resource reserved indication;

wherein said second set of parameters comprises at least an ATM quality of service parameter and a service category parameter;

wherein for said second set of parameters, said ATM quality of service parameter comprises a cell loss ratio parameter and a cell delay variation parameter;

wherein said egress queue family is one of a real-time (R-T) queue family, a resources reserved (RR) queue family, and a non-resources reserved (nRR) queue family; and,

- 6 -

wherein said RR queue family comprises eight RR queue members, each said RR queue member having a minimum bandwidth proportional to a weight assigned to each egress COS level associated with each said RR queue .

10-13. (Cancelled)

14. (Currently Amended) A system as claimed in claim 9 ~~13~~ , wherein said R-T queue family comprises a single R-T queue member having a predefined minimum bandwidth.

15. (Cancelled)

16. (Currently Amended) A system as claimed in claim 9 ~~13~~ , wherein said non-resources reserved queue family comprises eight nRR queue members, each said nRR queue member having a relative queue priority corresponding to an egress COS level associated with each said nRR queue.

17-18. (Cancelled)

19. (New) A method of mediating cell traffic between an asynchronous transmission mode (ATM) network and an adjacent network, each cell in said cell traffic having a set of transmission parameters related to a respective ATM connection, said method comprising:

- (i) identifying for said cell a set of parameters associated with said set of transmission parameters and switching said cell according to said set of parameters;
- (ii) associating with each parameter of said set of parameters, a class of service (COS) level from a predefined number of class of service (COS) levels;
- (iii) inserting said cell into a packet adapted for routing on said adjacent network and associating said packet with an egress COS level, according to said set of parameters of said cell; and
- (iv) utilizing said egress COS level associated with said packet to select an egress queue member of an egress queue family and placing said packet into said egress queue member for transmission along said adjacent network.

- 7 -

20. (New) A method as claimed in claim 19, wherein said set of transmission parameters comprises a real-time connection indication and a resource reserved indication.

21. (New) A method as claimed in claim 19, wherein said set of parameters comprises at least an ATM quality of service parameter and a service category parameter.

22. (New) A method as claimed in claim 21, wherein said service category parameter comprises a cell loss ratio and a cell delay variation.

23. (New) A method as claimed in claim 22, wherein said egress queue family is one of a real-time (R-T) queue family, a resources reserved (RR) queue family, and a non-resources reserved (nRR) queue family.

24. (New) A method as claimed in claim 23, wherein said R-T queue family comprises a single R-T queue member having a predefined minimum bandwidth.

25. (New) A method as claimed in claim 23, wherein said RR queue family comprises eight RR queue members, each said RR queue member having a minimum bandwidth proportional to a weight assigned to each egress COS level associated with each said RR queue.

26. (New) A method as claimed in claim 23, wherein said non-resources reserved queue family comprises eight nRR queue members, each said nRR queue member having a relative queue priority corresponding to an egress COS level associated with each said nRR queue.

27. (New) A method as claimed in claim 19, wherein said egress COS level is mapped within a field of an outer label of said packet.

- 8 -

28. (New) A system for mediating cell traffic between an asynchronous transmission mode (ATM) network and an adjacent network, each cell in said cell traffic having a set of transmission parameters related to said ATM network and a respective ATM connection for said cell, said system comprising:

- (a) an identifier for utilizing a set of parameters associated with said set of transmission parameters;
- (b) a translator for translating said set of parameters from said set of transmission parameters to an egress class of service (COS) level;
- (c) means for inserting said cell into a packet adapted for routing on said adjacent network and associating said packet with an egress COS level, according to said set of parameters of said cell; and
- (d) a port service interface for selecting an egress queue member to forward said packet to said adjacent network, said selected egress queue member being associated with said egress COS level associated with said set of parameters of said cell.

29. (New) A system as claimed in claim 28, wherein said set of transmission parameters comprises a real-time connection indication and a resource reserved indication.

30. (New) A system as claimed in claim 28, wherein said set of parameters comprises at least an ATM quality of service parameter and a service category parameter.

31. (New) A system as claimed in claim 30, wherein said service category parameter comprises a cell loss ratio and a cell delay variation.

32. (New) A system as claimed in claim 31, wherein said egress queue family is one of a real-time (R-T) queue family, a resources reserved (RR) queue family, and a non-resources reserved (nRR) queue family.

33. (New) A system as claimed in claim 32, wherein said R-T queue family comprises a single R-T queue member having a predefined minimum bandwidth.

- 9 -

34. (New) A system as claimed in claim 32, wherein said RR queue family comprises eight RR queue members, each said RR queue member having a minimum bandwidth proportional to a weight assigned to each egress COS level associated with each said RR queue.

35. (New) A system as claimed in claim 32, wherein said non-resources reserved queue family comprises eight nRR queue members, each said nRR queue member having a relative queue priority corresponding to an egress COS level associated with each said nRR queue.

36. (New) A system as claimed in claim 28, wherein said adjacent network is a MPLS network and said packet is an MPLS packet.

37. (New) A system as claimed in claim 28, wherein said port service interface initially directs said packet to said egress queue family according to a second set of parameters for said packet, and then further directs said packet to said egress queue member according to said respective egress queue based on said respective COS.

38. (New) A system as claimed in claim 37, wherein said port service interface further directs unlabelled IP traffic to a respective egress queue member.

1

- 10 -

39. (New) A method of mediating multi-protocol label switching (MPLS) packet traffic flows between a MPLS network and an asynchronous transmission mode (ATM) network, each MPLS packet traffic flow having associated therewith a set of transmission parameters, said method comprising:

- (i) identifying for said MPLS packet traffic flow an ATM egress queue type by utilizing a first set of parameters from said set of transmission parameters;
- (ii) associating with said MPLS packet traffic flow one of a predefined number of ATM egress class of service (COS) levels by mapping a second set of parameters from said set of transmission parameters into one of said ATM egress COS levels;
- (iii) utilizing said ATM egress COS level associated with said MPLS packet traffic flow to select an ATM egress queue member of said ATM egress queue type identified in step (i), said selected ATM egress queue member being associated with said ATM egress COS level associated with said MPLS packet traffic flow in step (ii); and,
- (iv) directing said MPLS packet traffic flow to said identified ATM queue member for forwarding to said ATM network.